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. EDITORIAL .

Canadian Economic Enterprise of To-Morrow

Let us pay a moment of respect to the late President of the U.S.A. —Franklin Delano Roosevelt. Let us now extend a neighbourly hand of co-operation to President Truman. May our mutual welfare continue to be cordial and democratic.

It is beginning to appear that we are at the cross road in our national career of Canada. Is all well? What can we look forward to?

Our war record is favourable to the world. This has been acknowledged in many countries. Only the fifth columnists and political mongers in our midst venture to suggest anything contrary.

He who claims he has never made a wrong move is an egotistical fool.

We must build for the future on the foundation we have laid in Canada since Confederation. In comparison with other world countries, Canada is conceded to be a good place to live in, to work in, to farm in, to manufacture in, to do business in and in which to be educated. Our natural resources have been well scratched, but we still have plenty of material with which to produce.

We have settled the land in small parcels in ideal democratic fashion. Our government has established agricultural research and experimental stations which have promoted and kept modern, agricultural industry. Similar support has been given to the fishing industry, the lumber industry, the mining industry and export trade in general.

What have we available to the small manufacturer?

This country is fast entering the servitude and control of the cartels. With abated breath and perhaps also incognito, we would mention chemicals, steel, oil and fuel.

Any veteran of the 1914-18 war will say, he would rather return to the opportunity offered by the present government, than again return to Canada to face the opportunities available after the last war.

There is still a missing assistance to small industry for which provision should be made. We refer to direct government assistance to small manufacturers. Financial assistance should not be given to small manufacturers without ancillary considerations.

A satisfactory provision might be developed if the government would retain the present department of the Research Council staff serving the war effort, so that this body could function in line with the scientific departments of the Department of Agriculture, and the Department of Mines, for the benefit of and to assist the small manufacturer in the scientific development and support of new industry.

Big Industry has and can afford to maintain such promotion service.

Scientific facilities should, through such a goverment Department, be made available to the small business individual. Any new developments

or patented items should be offered to any manufacturer capable of putting the new device into, or using it in, his business while retaining the patent or process rights in the Government Department.

When and as any small manufacturer has satisfactorily demonstrated that he can and will successfully operate and stay in business, then only, Capital assistance should be available on the usual credit basis.

It has been acknowledged that Canada will probably emerge from this war period as a manufacturing nation of world prominence.

What is the future of Canadian business and industry?

Are we going to follow the trend of ambitious ever increasing volume and size of individual organizations, corporations, combines, trusts and cartel marketing controls? That is the present day goal of the business that passes beyond the control of the originator.

In the older countries, where craftmanship is kept in control of the original family, there is a solidity and permanence that suggests unlimited existence because of that particular craftmanship.

In a democratic country, smaller businesses in number are much more desired than few big corporations which have national controls permitting exploitation.

Before this war period there was practically only one organization in Canada built up on craftmanship, still under control of the originator and doing a national business without competition. This type of business cannot be begun without a basis craftmanship. Even then its full growth may ordinarily require a generation or even a life time.

The promotion of smaller manufacturers is essential to Canadian democratic development to maturity. In the modern pace of progress, the small business, based on craftmanship, can be greatly speeded to production through the scientific assistance, which might be provided by the government through a Department of Scientific Industrial Assistance.

Such a programme can contribute to the industrial growth indicated in Canada during the post war period. In this way Canadian industry can be built on a solid footing so desirable to functional continuity.

It need hardly be mentioned that this would contribute to employment.

Our Cost Accounting field does really, for the future, look green.

New Members

London

Ed. Pollard, Geo. White & Sons Co. Ltd.

Geo. W. Marchell, Geo. White & Sons Co. Ltd.

Montreal

Adrien Mantha, Anderson & Valiquette, C.A.

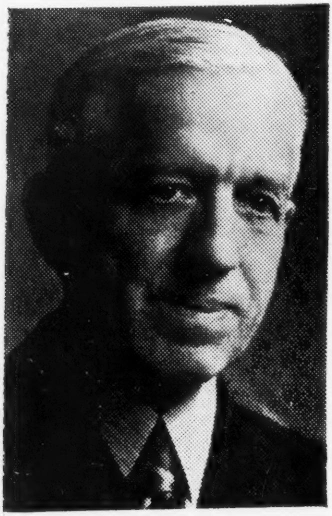
L. F. Hamilton, Apt. No. 5, 3404 Kingston Road.

Ottawa

S. B. Cheeseman, Dept. of Finance—Treasury Cost Accounting Section.

Toronto

H. O. Stock, John Inglis Co. Ltd.



ARTHUR MacNAMARA
Deputy Minister of Labour

Mr. MacNamara, as Director of National Selective Service, has performed a magnificent task in Canada's war effort. It has been his job to provide workers where they are most needed and in doing so, it has been necessary not only to keep labour contented, but to satisfy the requirements of management.

At the request of "Cost and Management", Mr. MacNamara has kindly written an article, which appears in this issue, in explanation of the Amendments to the National Selective Service Civilian Regulations.

Norman Cowan, Dulevb Plastics Ltd.
Harry L. Gee, Hinde & Dauch Paper Co. Ltd.
B. Dickinson, E. S. & A. Robinson (Canada) Ltd.

Non-Resident

Israel Cohen, Public Accountant, St. John, N.B.
Lt. F. T. Marlay, Royal Canadian Army.

Chapter Notes

Edmonton

On Friday evening, April 13th, the local Chapter held the final meeting for the season at the Corona Hotel. The meeting was well attended, and after dinner the last lecture in the series which had been arranged with the University of Alberta was heard. Mr. Gordon Skinner, C.A., lecturer

in accounting at the University, gave a very comprehensive talk on "The Corporation." Mr. Skinner's talk covered the nature of the Corporation; its advantages and disadvantages as a business entity; how it is commenced and how it should be carried on, as well as a discussion of share capital, bonded indebtness and surplus.

The following are the list of officers for the ensuing year:

Chairman—J. V. Dodds, MacDonalds Consolidated Ltd.

Vice-Chairman—J. G. Duncan, Partiquin & Johnstone.

Secretary—J. Henderson, Great West Saddlery Co.

Program Director—D. Robinson, Provincial Government Dept. of Roads and Bridges.

Press Representative—A. E. McDonald, Merrick Drug Stores Ltd.

Treasurer—W. Plowman, City of Edmonton, Comptrollers Dept.

Fort William-Port Arthur

The members met on April 17th to hear a very interesting address by Mr. A. W. H. Taber, Manager of the Fort William Hydro Electric Power Commission. Mr. Tabler gave a resume of how Hydro was started, outlining its growth since inception, how it is departmentalized and how their costs are determined.

At the conclusion of the meeting, Douglas Henderson showed a film which was much enjoyed by the members.

Hamilton

The Chapter closed its activities for the season with an excellent meeting on April 19th. Mr. A. J. E. Child, Assistant Treasurer of Canada Packers Ltd., addressed the meeting on the subject of "Internal Auditing". Mr. Child gave his listeners a very comprehensive outline of the work of the modern internal auditor and his place in the organization as one of the principal tools of management. The great interest of the members in the address was revealed by the many questions put to the speaker all of which were answered concisely and to the point.

Before the address the nominating committee submitted its report and the following officers were elected for the ensuing year:

Chairman—G. H. Greenhough, R.I.A., Reid Press Ltd.

Vice-Chairman—H. Gallagher, Irvington Varnish & Insulator Co. Ltd.

Secretary-Treasurer—A. R. Wright, R.I.A., Firestone Tire & Rubber Co. of Canada Ltd.

The Student Section held its final meeting of the Season at the Y.M.C.A. on April 24th. A very interesting and instructive talk on Budgetary Control was given by Mr. A. G. Howey, R.I.A., Secretary-Treasurer of Mercury Mills Ltd. An excellent discussion period followed the address.

Kitchener.

On April 18th, the Chapter held its regular monthly meeting at the Iroquois Hotel, Galt. Mr. C. M. Laester and Mr. F. Keith Staebler addressed the meeting on the subject of Insurance. Mr. Laester discussed Fire Insurance and Mr. Staebler chose Casualty Insurance. Both talks were most informative and a number of interesting questions were asked and answered during the discussion period.

The next meeting will be held at the Trail's End Hotel, Conestoga, May 16. The speaker will be Mr. Mel Walker, R.I.A., on the subject of

"Office Organization". This will also be the annual meeting when the election of officers will be held for the year 1945-46.

Ottawa

Members of the Chapter heard an address on the "Role of Psychology in Industry" at their meeting in the Chateau Laurier on April 12th. The speaker was Dr. T. A. Jackson of Stevenson-Kellogg, Ltd., Montreal. Dr. Jackson stated that in the past management had been primarily interested in production alone. In the future, management must be interested not only in production but in the development of its men.

The meeting was well attended and one of the most interesting the Chapter has held for some time. The discussion period following the address was particularly interesting.

Toronto

In holding its annual Ladies' Night on April 24th, the Chapter closed its season's activities in a "blaze of glory". Some 75 members with their wives and friends dined and danced at the Old Mill. Void of all formalities and business, the evening was a grand departure from the worries and troubles of present day accounting problems. Mr. C. Warnes, the Chapter Chairman, presided over the festivities and paid just tribute to the excellent work done by Hugh MacDiarmid, Len Brooks and others who were in charge of the arrangements. Indeed it was an evening long to be remembered by those prsent.

Personals

Mr. L. C. M. Palmer, C.G.A., R.I.A., formerly of Thompson Products Ltd., St. Catharines, has been appointed Secretary-Treasurer of The American Parchment Co. Ltd, Espanola, Ontario. Mr. Palmer has been Chairman of the Niagara Chapter for the past year. Mr. J. C. MacMicking has been appointed to take Mr. Palmer's place at Thompson Products Ltd.

Mr. A. G. Howey, R.I.A., formerly Treasurer of the Mercury Mills Ltd., has been appointed Secretary-Treasurer of that Company. Mr. Howey is a Past President of the Canadian Society, a charter member of the Ontario Society presently holding the office of Vice-President of that Body.

Mr. F. L. Lazier, C.A., a member of the Toronto Chapter, formerly of the G. H. Wood & Co., Toronto, has joined the staff of Wm. Kennedy & Sons, Owen Sound.

Mr. John W. Christie, L.C.M.I., who was formerly with the Cost Section of the Department of Munitions & Supply is now with the American Locomotive Co., Schenectedy, N.Y. Mr. Christie is a member of the Montreal Chapter and last year served as Secretary of the Cost & Management Institute. In announcing his change of employment, Mr. Christie writes in part: "The Educational Committee may be interested to know that the degree has been of great help to me, in the U.S.A. as well as in Canada. The importance attached to it seems to be not only in its proof of successful conclusion of a course of study but in its implication that the individual is of a character that will "stick with things", and is willing to give time and money to improve himself.

"As the Annual Meeting approaches the Institute is particularly in my thoughts and I extend my sincere good wishes to all members."

The Society of Industrial Accountants of British Columbia

NORMAN TERRY
President

At the inaugural meeting of the Society of Industrial Accountants of B.C., the following officers were elected:

President—Norman Terry.

1st Vice-President—M. A. Gilmour.

2nd Vice-President—F. G. Coburn.

Secretary-Treasurer—C. H. Davis.

Appointments to Committees are as follows:

By-laws and Legislation—M .A. Gilmour, R. A. MacIntyre and J. A. H. Irving.

Education and Qualifications—V. E. Feimann, A. W. Ingall and N. Terry.

Membership—R. C. Lucas, P. Russell, F. G. Coburn and N. Abramsen.

The activities of the Vancouver Chapter and the incorporation of the Society in British Columbia have received much favourable publicity and recognition in the business publications of that province. We reprint herewith a portion of the report carried in the April issue of "Western Business and Industry":

"The incorporators of the B.C. Act have all been long associated with the production cost problems in industry in British Columbia. These include Norman Terry, secretary-treasurer of Canadian Sumner Iron Works; Murray A. Gilmour, manager of Sweeney Cooperage Ltd.; Richard A. Lucas, local manager of National Paper Box Co. Ltd.; Peter Russell of Evans Coleman & Evans Ltd.; Robert A. McIntyre of the Dept. of Munitions & Supply, Treasury Cost Section; Nicholas Abramsen, manager of Burroughs Adding Machine Co.; Jacob A. H. Irving, manager of Hedlunds Ltd.; Charles F. Bailey, business manager and comptroller of the Sun Publishing Co.; Victor E. Feimann, comptroller of the B.C. Bridge & Dredging

Co. Ltd.; Frederick A. Coburn, supervisor for B.C. of the Dept. of Munitions and Supply, Treasury Cost Section; Alfred W. Ingall, also of the same department, and Clifton H. Davis, of the Terminal City Iron Works Ltd."

Mr. Terry and Mr. Gilmour together with their executive are to be congratulated on the success which has attended their efforts. They have indeed expended much of their personal time and energies to give to the Province of British Columbia a Society devoted to the advancement of the theoretical and practical knowledge of general and cost accountants and to give to the Canadian Society additional scope in its new affiliation.

Of interest is a report received from Mr. C. H. Davis giving an outline of the activities of the Vancouver Chapter for the past year :

"The Vancouver Chapter has certainly shown a remarkable growth and progressive activity this season and is creating a great deal of interest in the accounting field. Membership now numbers well over sixty and is a good representative body.

The organization, under the able leadership of Norman Terry and the co-leadership of Murray Gilmour, together with the active support of the Directors and various committee members, is rapidly forging the Western link in the chain of Chapters as solid as the time established Eastern link.

All the monthly meetings have been well attended and it has been very gratifying to note the number of members who have addressed these gatherings, and the able way in which they have presented their talks. Another feature, which has created a great deal of interest, is the "Question of the Month." A question is handed in by a member and this is incorporated in the invitation, and at the meeting, the members discuss same and give their views. It is really amazing how controversial a question can become. After the address by the speaker, we have a question period and the different viewpoints are exchanged. This rounds out a most interesting and educational evening.

The student members meet weekly, except when the regular chapter meeting is held, and this study group is ably led by senior members of the Chapter. It is making rapid strides in the mastering of the various problems arising in the accounting field, and when the examinations are held these senior members can with pride view the results of their coaching."

An Explanation of the Amendments to the National Selective Service Civilian Regulations

By ARTHUR MacNAMARA

Deputy Minister of Labour

The Minister of Labour recently announced some rather extensive amendments to the manpower controls contained in the National Selective Service Civilian Regulations. These amendments were made by Order-in-Council P.C. 1415 and became effective on March 20th, 1945.

The administration has attempted to avoid frequent amendments to the regulations, but as conditions vary it is necessary to make the regulations adaptable to new conditions as they develop with the changing situation in war production, brought about by events on the war fronts.

Prior to amendments to the regulations in the fall of 1944, local Selective Service Officers had fairly extensive authority to approve short notice of lay-off, where the lay-off was made necessary by circumstances beyond the control of the employer. At that time the regulations were changed in such a manner as to allow employers to lay off employees without prior notice, for a period not exceeding fourteen days in a six months period. It was found that this scheme was not entirely practical in operation and that it was the cause of considerable misunderstanding on the part of both employer and employee.

This fourteen day plan has been revoked in the recent amendments contained in Order-in-Council P.C. 1415, and in its place some of the authority previously held by the Selective Service Officer, for approval of short notice in appropriate circumstances, has been restored. In addition the employer is now authorized to give a notice of lay-off effective immediately where a stoppage of operations is brought about by a power shortage. The authority of the Selective Service Officer to approve a period of notice of less than seven days applies only to temporary lay-offs, and where it is to be a final termination of employment the employee must still be given either seven days' notice or wages in leiu of notice.

Certain changes were also made in the administrative procedure, in "de-frosting" designated establishments, but these changes in procedure do not change the principle in any way. Before the recent amendments the Local Office had authority to reduce the labour priority rating, and as a result of the low priority the establishment ceased to be a designated establishment or the employment was no longer frozen. Now the Selective Service Officer is authorized, in appropriate circumstances, to remove the "freeze" but without affecting the labour priority rating. The decision as to the propriety of reduction of the labour priority rating will, in this way, be left to the Labour Priority Committee at Ottawa. The purpose of "de-frosting" of employment in designated establishments is to expedite the procedure where a lay-off of considerable numbers is made necessary by a cancellation or reduction in war contracts.

An interesting change was also made in Section 203 of the regulations, which is the section dealing with suspensions for serious misconduct. Prior to the recent amendments, a member of an Association with which an employer had entered into a collective labour agreement providing for a review of suspension, was entitled to have his case disposed of under the grievance procedure contained in the agreement, rather than by reference to a Selective Service Officer. This procedure was limited to those who were actually members of the Union or Association. Under the amendments the same procedure will be followed by all of the employees of the establishment, who have the right to have their case reviewed under the grievance procedure whether or not they are members of the Union or Association.

Section 209 of the regulations has been amended in such a manner as to make it clear that a person is regarded as being unemployed if he is in employment contrary to the provisions of the regulations. The lack of such a provision had previously caused some difficulty in the administration and enforcement of the regulations.

Another important change, relating particularly to the enforcement of the regulations, has been made. Previously in a number of cases where a person refused to carry out a proper direction under the regulations, the penalty was that he could be directed to an Alternative Service Work Camp. This penalty was, perhaps, too severe, and in practice has not had the desired effect. As a result of the amendments, in the first instance a person failing to comply with the direction is subject to the usual penalty of fine or imprisonment, but those who persist in violation of the regulations may still be directed to an Alternative Service Work Camp.

One of the most important amendments was that giving to the Selective Service Officers authority to direct to employment in agriculture, any person who has reached the age of 16 and has not attained the age of 65. The authority is broad and, of course, must be administered with discretion and good judgment, but it does indicate the present need for sufficient manpower to maintain agricultural production at the high level attained during the last couple of years.

One of the important changes, designed particularly to meet conditions which may arise with the reduction in war production and the shift to civilian production, is the authority given to Selective Service Officers to provide transportation for war workers from the place of employment, either to the place of former residence or to some other point where there is a reasonable prospect of his being placed in suitable employment. This additional authority is designed to increase the mobility of workers in the transition from wartime to peacetime production.

Extensive and detailed changes have been made in Section 214 of the regulations, which is the section providing the right of appeal against rulings and directions given by Selective Service Officers. It is not necessary to outline each of these changes, but perhaps sufficient to say that the amendments remove any existing doubts as to the right of appeal in certain circumstances. For example, there was not previously an appeal against a ruling of a Selective Service Officer approving an application by either an employer or employee for termination of employment in a designated establishment. In such a case the right of appeal is now given, but the

appeal must be lodged within forty-eight hours after the ruling of the Selective Service Officer is communicated to the interested persons. Provision is also made for re-hearing of cases where new facts have been disclosed after the decision of the Court had been given.

Distillery—Cost Accounting

By H. C. COX, C.A.

Address Delivered to the Windsor Chapter of The Society of Industrial and Cost Accountants of Ontario on Thursday, January 4th, 1945.

The discussion this evening on "Distillery Cost Accounting" will apply to distillery operations during peace time in the United States.

In order to understand distillery costing it is essential to have a rough knowledge of how whiskey is made:

1. Grain is cultivated.
2. Grain is stored to dry.
3. Grain is ground.
4. Grain is then placed in cookers where malt and water are added and a mash is produced.
5. Mash is placed in fermentation tubs where yeast is introduced.
6. Mash then enters still where it is hit by live steam producing vapors.
7. Vapors enter a condenser where they are cooled and liquefied, producing spirits.
8. Spirits are then barrelled off and stored in maturing warehouses from four to thirteen years.

It is now time to talk about the subject that we are most interested in, that is, the costs in a distillery. I will try to discuss these costs in the same order as the production, therefore, we must commence with the raw material, namely, grain.

Grain

The grain is purchased on the open market in the usual manner like any other commodity, except that a distiller generally buys several months in advance to be assured of delivery at the proper time and the purchase is made usually when the grain buyer considers the market most favourable. The grain is left in public grain elevators until needed and storage paid at the usual rates. This method of purchasing allows the distiller to know in advance the grain costs. The price of grain may go down or up in the interval between the date purchased and the time the grain is needed for production, however, the price paid for the grain will be the basis for the charge to the production.

The grain transactions are recorded by a working schedule. This schedule is divided into two sections, "Raw Grain" and "Grain in Process". The schedule is a columnar sheet of at least fourteen columns depending on the number of types of grain used. The columnar sheet is headed across the top by description, types of grain, i.e., corn, rye, wheat, malt, rye malt, dia-malt, etc. It is necessary to use three columns for each type

of grain to show quantity, unit cost per bushel and amount. Lengthwise on the schedule under raw grain there is included the following:

Raw Grain		
Inventory Beginning of Month	....	....
Purchased during the Month	....	....
Together		
Less transferred to mash	....	....
Balance end of month	....	....
Grain in Process		
Inventory Beginning of Month	....	....
Transferred from raw grain	....	....
Together		
Less grain used in production	....	....
Balance End of Month	....	....
Total Inventory Raw and Grain in Process	....	....

The quantities of raw grain in inventory at beginning and end of the month, purchased and transferred to mash will be furnished by the production department. The quantity purchased must agree with the quantities recorded as purchased with supporting invoices entered in the vouchers payable record. The grain in process in inventories and used in production shall also be reported to the cost department by the production department.

The total inventory at the end of each month will agree with the grain inventory account in the general ledger. The book entries are as follows: Purchases debited to "Grain Inventory" and credited to "Vouchers Payable". Grain used in production being debited to "In Process Spirits" and credited to "Grain Inventory". The above two entries are the only ones necessary each month unless there are some of a special nature such as freight claims for grain lost in transit, etc.

Distilling Expenses are comprised of the following:

Direct Payroll
Distillery Repairs and Maintenance Payroll
Distillery Repairs and Maintenance Expense
Heat, Light and Power
Laboratory Payroll
Laboratory Expense
Garage Payroll
Garage Expense
Processing Materials
Miscellaneous Supplies
Miscellaneous Expense.

The charges to distillery expenses by the above sub-classifications are taken from the distribution of the payroll and from the distribution of the voucher register, that is, with the exception of the charge for heat, light and power, the distribution of which will be dealt with later.

The distribution of distillery expenses as between bourbon whiskey, rye whiskey or other types are pro-rated on the basis of proof gallons produced.

The distilling expenses account as recorded in the general ledger is closed out at the end of each month in the same manner as the grain account is adjusted by debiting "In Process Spirits" and crediting "Distillery Expenses".

By-Products Recovered

Dried Grain

When distillation has been completed there is a wet mash residue sometimes called slops. For the purpose of obtaining a saleable commodity it is dried and otherwise prepared to produce a cattle feed known as dried grain.

An account is kept in the general ledger under the caption "Dried Grain Income and Expense Account." This account is credited with all sales of dried grain at the invoice price to the customer less any freight charges absorbed by the company if sold on a delivered basis. The inventory of dried grain on hand at the beginning of each month is charged to this account at market values, similarly the inventory of dried grain on hand at the end of each month is credited to this account at market values. It now follows that the balance of these three items represents the sales value of dried grain produced. The production and selling expenses of this by-product are charged to this account, the principal charges are as follows:

Payroll
Sacks
Maintenance and Repairs Payroll
Maintenance and Repairs Expense
Heat, Light and Power
Laboratory Payroll
Laboratory Expense
Storage
Supplies
Selling and Travelling Expenses

The net result of the above credits and charges represents the net recovery from dried grain production. The dried grain income and expenses account is cleared out of the general ledger at the end of each month by debiting "Dried Grain Income and Expenses" and crediting "In Process Spirits".

Carbon Dioxide Gas is recovered from vapors given off by the "mash". In small distilleries this vapor merely escapes into the air, however in larger distilleries, it is recovered and used in the production of dry ice and carbonated products. The sale of carbon dioxide gas is therefore a by-product income against which there is little or no charge for cost of recovery, since the gas is merely piped off direct to an adjacent carbonic plant. The income from this by-product is closed out each month to "In Process Spirits" thereby decreasing the cost of production.

Fusel Oil is recovered in distilling and is disposed of to chemical companies. Like carbon dioxide gas no expenses are charged against this by-product except the cost of the barrel or drum in which it is placed for storing and shipping. The income from fusel oil is likewise credited each month to "In Process Spirits".

Heat, Light and Power

A modern power plant must be maintained for present day distillery production.

It is necessary that the chief engineer of the power plant submit to the cost accounting department at the end of each month a "Heat, Light

and Power Distribution Sheet". This report is prepared in the manner as set forth in Exhibit I and Exhibit II.

The heat, light and power report submitted by the chief engineer shall show quantities or units only, the cost figures being added by the cost department.

Exhibit I

THE DISTILLING COMPANY

HEAT, POWER AND LIGHT DISTRIBUTION

MONTH ENDING 1944

Report No.

	Tons	Cost
1. Coal		
a. Coal on hand first of month	316	$ 632.00
b. Coal received	6,030	11,787.00
c. Total	6,346	12,419.00
d. Coal burned during month	6,046	11,819.00
e. Coal on hand end of month	300	$ 600.00
	Cubic Feet	
2. Gas		
a. Gas purchased	2,196,682	$ 1,000.00
b. Gas to laboratories	14,600	6.60
c. Net gas to fuel	2,182,082	993.40
3. Total Fuel cost		$ 12,812.40
	K.W.H.	
4. Electricity		
a. Total generated	1,834,000	$ 2,562.00
b. Total purchased	78,500	1,582.00
c. Total	1,912,500	$ 4,144.00
d. Sold to others	301,800	2,106.05
e. Net consumption	1,610,700	2,037.95
5. Lbs. Steam Produced	107,860,000	

Note: The above figures are not actual amounts but inserted merely to illustrate.

The coal inventory account in the general ledger is charged with coal purchases and credited with the value of coal used, the balance at the end of each month thereby corresponding to the inventory value as shown on the heat, light and power report. Gas and electricity purchased is charged direct to the heat, light and power account. Gas used in the laboratories and electricity sold to others is credited to the heat, light and power account by means of a journal entry or direct from the sales summary. Other expenses such as payroll, maintenance and repairs, miscellaneous supplies, etc., are charged direct to heat, light and power account from the payroll distribution and vouchers payable distribution.

The heat, light and power account is cleared out at the end of each month to the various operating accounts by means of a journal entry. The charges to the operating or expense accounts are based on the pounds of steam or kilowatt hours of electricity used by each department as furnished by the chief engineer. The units are obtained by the engineer from meters

Exhibit II

THE DISTILLING COMPANY
HEAT, POWER AND LIGHT DISTRIBUTION (Continued)

6. Distribution by Accounts

Account	Steam M-Lbs.	Steam Cost	Electric Current K.W.H.	Electric Cost	Together Cost	Together %	Other Expenses Cost	Total Cost
Distillery	42,382	$ 4,457.07	505,700	$ 857.45	$ 5,314.52	43%	$ 4,394.63	$ 9,709.15
Dried Grain	53,578	5,666.63	500,000	849.00	6,515.63	53%	5,416.64	11,932.27
Adm. Bldg.	....	....	35,000	59.50	59.50	1%	102.20	161.70
Warehouses	....	....	80,000	136.00	136.00	1%	102.20	238.20
Bottling	1,200	126.70	80,000	136.00	262.70	2%	204.40	467.10
Power House	10,700	....	410,000	....	....	....	....	....
	107,860	$ 10,250.40	1,610,700	$ 2,037.95	$ 12,288.35	100%	$ 10,220.07	$ 22,508.42

Note: The above figures are not actual amounts but inserted merely to illustrate.

for each type of energy, separate meters being used for each department. The units are then costed and pro-rated by departments. Other expenses being pro-rated on a percentage basis in ratio to the total cost of both steam and electric current charged to the several departments.

Monthly Report of Production

Exhibit III shows the form for whiskey production prepared by the production department at the end of each month and forwarded to the cost accounting department. The production quantities are agreed with government records at the plant before being submitted to the cost department since all whiskey stocks are under the control of Government Inetrnal Revenue Officers.

The whiskey in the high wines building is at the strength at which it comes off the still from which it is transferred to the cistern building and reduced to the strength at which it is barrelled off for transferring to the bonded warehouse.

The production actually recovered during the month is costed from the charges for grain and distilling expenses less the by-product income. Since the management desires a monthly cost of production it is found advantageous to prepare this statement at this point as the break down of the cost of production between types may then be used for costing the quantities warehoused by types.

By referring to Exhibits IV and V the method of costing the monthly production is set forth in a manner for submitting to the management.

Exhibit IV shows in statement form the grain used, by-product income and manufacturing expenses. These amounts have been accumulated from the grain schedule and the general ledger accounts transferred to "In Process Spirits" at the end of each month.

The "In Process Inventory" on Exhibit V is carried forward from a similar statement for the prior month and is added to the production for the current month. The totals of these two quantities classified by types are added together and a new average cost of each type arrived at. The costs of the quantities warehoused or transferred to bonded warehouses are transferred to "Barrel and Tank Stock" at the new average and the In Process Inventory at the end of the month remains at the same average price as the unit for quantities warehoused. The journal entry made at the end of the month for the gallonage warehoused on Exhibit V is as follows:

Dr.	Barrelled and Tank Stock in Bond		$618,016.77
	Bourbon Whiskey	$437,466.09	
	Rye Whiskey	180,550.68	
Cr.	In Process Spirits	$618,016.77	

The balance in "In Process Spirits" account in the general ledger after the above entry will agree with the amount on Exhibit V for In Process Inventory—End of Month.

At this point it may be well to draw to your attention that the cost of whiskey includes direct manufacturing cost only and does not include indirect manufacturing expenses such as insurance, depreciation, taxes, warehousing expenses and general administrative expenses. As whiskey remains in maturing warehouses for four years or more the bulk inventory is carried at the same value per proof gallon at the time it is taken from

Exhibit III

THE DISTILLING COMPANY
INVENTORY OF PRODUCTION OF "A" DISTILLERY

MONTH OF 1944

Whiskey Warehoused (Transferred to Bonded Warehouses during Month)			
Bourbon	1,130,419.43	Proof Gallons	
Rye	415,548.87	Proof Gallons	
Gin		Proof Gallons	
			1,545,968.30 P.G.
plus Inventory to Cistern and High Wines Buildings at end of Month			
1. Cistern Building			
Bourbon	108,450.49	Proof Gallons	
Rye	24,203.32	Proof Gallons	
Gin		Proof Gallons	
			132,653.81 P.G.
2. High Wines Building			
Bourbon	110,500.50	Proof Gallons	
Rye	25,303.31	Proof Gallons	
Gin		Proof Gallons	
			135,803.81 P.G.
			268,457.62 P.G.
			1,814,425.92 P.G.
Less Inventory in Cistern and High Wines Buildings at beginning of Month			
1. Cistern Building			
Bourbon	101,100.29	Proof Gallons	
Rye	16,613.16	Proof Gallons	
Gin		Proof Gallons	
			117,713.45 P.G.
2. High Wines Building			
Bourbon	100,104.45	Proof Gallons	
Rye	10,312.69	Proof Gallons	
Gin		Proof Gallons	
			110,417.14 P.G.
			228,130.59 P.G.
Spirits actually recovered during the month			1,586,295.33 P.G.
Bourbon	1,148,165.68 P.G.		
Rye	438,129.65 P.G.		
Gin	....		

Exhibit IV

THE DISTILLING COMPANY
PRODUCTION—"A" DISTILLERY—MONTH OF 1944

Bourbon Whiskey	Bushels 56 lbs. Per Bushel	Price per 56 lb. Bushel	Amount	Cost per U.S. Pf. Gallon
Grain Used	Bushels — Lbs.			
Corn	185,832 — 00	$1.3470	$250,324.29	
Rye	26,030 — 05	1.5612	40,640.34	
Barley-Malt	22,730 — 27	3.7176	84,503.01	
Dia-Malt	287 — 39	8.9938	2,558.73	
	234,880 — 15	$1.6095	$378,026.37	$.3291
*Portion of by-product recovered			(107,465.55)	(.0936)
*Portion of Manufacturing Expense			170,814.42	.1488
Cost of producing 1,148,166 U.S. Proof Gallons			$441,375.24	$.3843

Rye Whiskey

Grain Used				
Corn	30,056 — 32	1.3470	$ 40,487.58	
Rye	54,654 — 23	1.5612	85,331.04	
Rye Malt	2,430 — 00	3.3198	8,067.00	
Barley-Malt	8,243 — 05	3.7176	30,644.58	
Dia-Malt	126 — 08	8.9938	1,121.91	
	95,510 — 12	$1.7343	$165,652.11	$.3780
*Portion of by-product recovered			(41,008.56)	(.0936)
*Portion of Manufacturing Expense			65,182.29	.1488
Cost of producing 438,130 U.S. Proof Gallons			$189,825 84	$.4332

*Pro-rate on Proof Gallons Produced
() Denotes credit.

	Bourbon	Rye	Gin	Total
Grains Used (Bushels)	234,880-15	95,510-12	....	330,390-27
U.S. Proof Gallons Produced	1,148,165.68	438,129.65	....	1,586,295.33
Yield per Bushel	4.8883	4.5873	....	4.8013
Total Cost	$441,375.24	$189,825.84	....	$631,201.08
Cost per U.S. Proof Gallon	$.3843	$.4332	....	$.3978

Exhibit V

THE DISTILLING COMPANY
WHISKEY WAREHOUSED DURING MONTH OF 1944

	Total		BOURBON			RYE		
	Proof Gallons	Amount	Proof Gallons	Unit Price	Amount	Proof Gallons	Unit Price	Amount
Production during Month	1,586,295.33	$631,201.08	1,148,165.68	$.3843	$441,375.24	438,129.65	$.4332	$189,825.84
In Process — beginning of Month	228,130.59	93,058.53	201,204.74	.4017	80,823.69	26,925.85	.4543	12,234.84
	1,814,425.92	$724,259.61	1,349,370.42	$.3870	$522,198.93	465,055.50	$.4344	$202,060.68
Warehoused during Month	1,545,968.30	618,016.77	1,130,419.43	.3870	437,466.09	415,548.87	.4344	180,550.68
In Process— end of Month	268,457.62	$106,242.84	218,950.99	$.3870	$ 84,732.84	49,506.63	$.4344	$ 21,510.00

warehouses for bottling as at the time of production. The indirect manufacturing expenses are included and charged off each year in the profit and loss statement. Some accountants may argue that this method of valuing inventories is on the conservative side, however, on the other hand should inventories be increased each year for the warehousing expenses and general administrative expenses and remain in the warehouses longer than the desired ageing period the inventory values would be increased even though the actual value has not increased. Such a method of adding expenses would tend to over value inventories. The basis first mentioned while conservative in nature does not distort the final profit or loss providing the same method is used consistently from year to year.

Barrelled and Tank Stock

Whiskey in In Bond Warehouses is segregated on the books by types and years of production. A practical method is to keep a subsidiary record with a separate account for each type for each year. For example if the company has rye whisky in inventories manufactured in years from 1934 to 1944 there would be eleven individual inventory accounts in the subsidiary record for rye whiskey and a corresponding number for bourbon and other types of whiskey in stock. The total of the individual sheets will agree with the general ledger account "Barrelled and Tank Stock—In Bond Whiskey".

The individual subsidiary account for each year's whiskey is built up by the transfer from "In Process Spirits" each month. On completion of the transfer for December each year, the unit cost for that particular year is computed and remains at that unit value. The unit value will then be the manufacturing cost for the entire year. At the time whiskey is removed from bonded warehouses and tax paid for bottling, the number of gallons removed is priced at the unit value per gallon for the average manufacturing cost for the year.

The method of costing up to the point where the whiskey is placed in bonded warehouses has been actual cost. From this point until the finished product is shipped out and charged to cost of sales the entire costing is based on standard costs, the difference between actual and standard cost being adjusted as a debit or credit to "Inventory Variation Account."

Standard Costs are estimated for each brand sold, by type of whiskey, age and proof. The standard costs are changed periodically to allow for any change in the cost of bottling expense. It is also necessary to change the standard cost when the year of manufacture for the whiskey is changed from one year to another. For example, say that "Golden Straight Rye Brand" is bottled at four years of age, then in bottling this brand in 1944 the 1940 production of rye is used, likewise the whiskey bottled in 1945 will be taken from the 1940 rye production for the first three months but after that period from the 1941 production since a four year whiskey will be 48 - 51 months of age. As the production in 1940 and 1941 will have different unit costs, it is necessary to change the standard cost at the time the change over from one year's production to another year is made.

By referring to Exhibit VI it will be noted that the standard cost of each brand and each size has three component parts, namely, bottling supplies, bottling expense and material cost. We shall discuss these three parts in the order they appear on the "Specification Cost Sheet".

Bottling Supplies

The production department furnishes the cost department with a "Standard Specification Sheet" for each brand and size bottled. Exhibit VII shows the form for such a sheet and details the various items of bottling supplies used in bottling that particular brand and size as well as the stock number and the number of units of each supply used for each case bottled. The cost department on receiving the "Standard Specification Sheet" prices the various items as set forth on the sheet and computes the cost of the bottling supplies used. A new specification sheet is prepared by the production department only when the type of supply changes, say a different type of bottle with another stock number.

It will be noted that columns are provided for costing at various periods, the same sheet being used when the cost of supplies changes but the supplies used remain unchanged.

The cost department maintains a Kardex System for each bottling supply used by stock number. A separate card is used for each item of supply and shows the quantity, unit cost and amount. The cards are written up from the purchase invoices entered each month in the voucher register. The bottling supplies used in production are deleted each month on the cards at the average carrying value. We shall discuss bottling supplies used each month later on in the paper. At the time the standard specification sheet is priced by the cost department the cost of each item of supply is taken from the individual card.

Bottling Expense

The production department in conjunction with the cost department makes periodical time study tests of hours used in filling the bottles, screwing on the closures, attaching on the bottles the labels, cel-o-seals and government stamps, placing the filled bottles in the cases and conveying the cases to the shipping department. By taking the number of man and female hours spent on these operations for each size and applying the hourly rates of pay and taking into consideration the units bottled in the elapsed number of hours studied, it is possible to arrive at a standard cost for each size bottled. The same standard bottling cost will be used for all brands and types of the same size providing the operations in bottling are the same. Since bottling operations are comprised of expenses, such as heat, light and power, maintenance and repairs expense, designing, breakage, miscellaneous supplies and expense, these expenses are pro-rated over the cost of the several sizes in proportion to the payroll on a percentage basis. The above study merely establishes the ratio as between sizes. For example, say the above calculation establishes a bottling cost of thirty-five cents for a case of fifths size bottles and forty-two cents for a case of quart size bottles, then when it is necessary to raise or lower the standard cost the ratio of 5 to 6 is maintained. Standard bottling expenses are changed periodically when the check with actual bottling expenses warrants an increase or decrease.

Material Cost

The predetermined standard material cost for any brand may be arrived at as soon as the year of production of the whiskey is determined. The cost of the whiskey for the particular type and year of the whiskey is taken from the subsidiary record recording the various costs of barrelled and tank stock. For example Exhibit VIII states the cost of four year old rye

THE DISTILLING COMPANY

Exhibit VI

SPECIFICATION COST SHEET

"A" Plant

Brand Name: GOLDEN STRAIGHT RYE   Age 4 Yrs. : Proof 86   Cost Period: Effective January 1, 1945

Particulars	Description	Gallons		Quarts		Fifths		Pints		Half Pints		Miniatures	
		Unit Price	Cost Per Case	Unit Price	Cost Per Case	Unit Price	Cost Per Case	Unit Price	Cost Per Case	Unit Price	Cost Per Case	Unit Price	Cost Per Case
BOTTLING SUPPLIES	No. of Case Used					doz.							
Case & Bottles	L-7544					.9168	.9168						
Caps or Corks	MC-5					9.58 M	.1150						
Body Labels	H-274					9.80 M	.1176						
Back Labels	N.H.-260					1.16 M	.0146						
Auxiliary Labels													
Cello-Seals	C.L. 16					4.88	.0586						
End of Case Stickers													
End of Case Labels	H-274					9.80	.0196						
Code Sticker													
Waxed Paper													
Federal Stamps	Fifth					.01	.1200						
							1.3616						
Allowance for Breakage							.0136						
Total							1.3752						
BOTTLING EXPENSE							.35						
MATERIAL COST							20.62						
TOTAL COST							22.35						

Note: The above figures are not actual amounts but inserted merely to illustrate.

Exhibit VII

A Distilling Company

"A" Plant

STANDARD SPECIFICATION SHEET

Brand	GOLDEN STRAIGHT RYE	Number	H-1186
Size FIFTH	Package ROUND FLINT - VICTORY	Date	10-22-44
Proof 86	Age 4 Yr. Code M-52	Cancel Number	H-1150
		Date	4-5-43

Item	Stock Number	Number per Case	Jan. 1, 1945 Price	Case Cost	Price	Case Cost	Price	Case Cost	Price	Case Cost
Cases & Bottles	L-7544	12	.9168 doz.	.9162						
Carton										
Closure	MC-5	12	9.58 M	.1150						
Capsule										
Cel-O-Seal	CL-16	12	4.88 M	.0586						
Face Label	H-274	12	9.80 M	.1176						
Back Label	NH-260	12	1.16 M	.0146						
Shoulder Label										
Aux.Back Label										
Gov't Stamp	Fifth	12	.01 ea	.1200						
Case Label	H 274	2	9.80 M	.0196						
Case Aux.Label										
Waxed Paper	W 4	1	-	-						
				1.3616						
Allowance for spoilage				.0136						
				1.3752						

Note: The above figures are not actual amounts but inserted merely to illustrate.

Exhibit VIII
"A" Plant

THE DISTILLERY COMPANY
Material Cost Sheet

Type RYE

Number of Month Old	48 — 51	
Year of Production	1940	
Cost per Original Proof Gallon		$ .4610
Allowance for Depreciation of Barrels		.1500
		.6110
Percentage of Shrinkage allowed by Gov't	.20	
U.S. Internal Revenue Tax per Original Proof Gallons based at $9.00 per tax gal.		7.2000
		7.8110
Amount of Shrinkage—allowed and disallowed		1.9527
Cost per proof gallon regauged and tax paid		9.7637
Rectifying and maturing expense at 10c per Pf. Gal.		.1000
Bottling 1¼%		9.8637
		.1259
Cost per proof gallon		$9.9896
Cost per wine gallon 90 proof		$8.9906
Cost per wine gallon 86 proof		8.5911
Cost per wine gallon 80.6 proof		8.0516
Cost per 3 gal. case 90 proof Quart Size		26.97
Cost per 2.4 gal. case 90 proof Fifth Size		21.58
Cost per 3 gal. case 86 proof Quart Size		25.77
Cost per 2.4 gal. case 86 proof Fifth Size		20.62
Cost per 3 gal. case 80.6 proof Quart Size		24.15
Cost per 2.4 gal. case 80.6 proof Fifth Size		19.32

Note: The above figures are not actual amounts but inserted merely to illustrate.

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bottled in 1945 using 1940 production.

The barrel depreciation is added to the cost of the whiskey. The cost of barrels used for filling with whiskey is not charged to the cost of whiskey but is carried in a "Maturing Barrel Account" in which is recorded the quantity, unit price and value. The value of the barrels is not relieved from the maturing barrel account until such time as the whiskey is dumped for bottling. In order to give whiskey an age in the United States, barrels may only be used once and for that reason the full cost of the barrel must be written off and included in the cost of the whiskey dumped for bottling. The allowance for depreciation of barrels included in the standard cost is calculated by taking the cost of the barrel, say $8.50 each less the market value of the barrel when empty, say $1.00 each, the remainder of $7.50

must be written off with the cost of the whiskey contained in the barrel. As the barrel contains approximately 50 U.S. proof gallons the amount to be provided in the standard cost will be 15c per original proof gallon.

The United States Internal Revenue Tax is added to the cost of the whiskey and the barrel depreciation. The U. S. Internal Revenue Tax at $9.00 per tax gallon is not paid on the original gallons but on the gallons remaining in the barrel after storing in the maturing warehouse for the time elapsed for ageing. The United States Internal Revenue Department allows certain shrinkage for evaporation and soakage according to the time the whiskey is aged and therefore the shrinkage is tax free providing the actual shrinkage does not exceed that allowed. The tax will be paid on the excess of the actual shrink over the government allowance. Exhibit VIII shows as an example that the shrinkage was 20% and was not in excess of the government allowance. From the example it will be noted that for every gallon originally placed in the barrel only 8/10 of a gallon remained when the whiskey was dumped for bottling. The government allowance may have been a higher allowance than 20% but from actual shrinkage in prior periods the rate of shrinkage has been determined for standard cost. The tax per original gallon is therefore calculated at 8/10 of $9.00 or $7.20 per original proof gallon.

In order to arrive at the cost of a regauged gallon when the shrinkage has been estimated to be 20%, it is necessary to divide the cost of a tax paid original proof gallon by eight and multiply by ten since it requires ten original proof gallons for every eight regauged proof gallons. The amount of shrinkage allowed and disallowed is merely the difference after the above calculation.

Rectifying and Maturing Expense is added to the cost per proof gallon regauged and tax paid. The rectifying and maturing expense represents the cost of carrying the whiskey in the maturing warehouses during ageing and the cost of reducing the whiskey to the proper strength for bottling. The cost of maintaining the warehouses includes the payroll and maintenance of looking after the barrels and moving the barrels in and out of the warehouse but does not include insurance, depreciation or taxes of the maturing warehouses. The cost of reducing the whiskey to bottling strength and dumping the barrels is included under rectifying expenses. Both of these elements of cost are charged against the current material cost. The unit cost per gallon used in the standard cost for rectifying and maturing expenses is estimated from past experience in prior periods and is adjusted upward or downward when setting new standards as the actual costs fluctuate.

During the bottling operations there is always a loss from spillage and evaporation and the gallonage tax paid and placed in bottling tanks is further reduced to the actual gallons bottled. The actual cost for each gallon bottled is determined by dividing the gallons bottled into the cost of the gallons placed in the bottling tanks. Exhibit VIII estimates the bottling loss to be 1¼% of the total cost per proof gallon bottled is arrived at by dividing the cost of a gallon in the bottling tanks by .9875, as for every gallon placed in the tanks only .9875 of a gallon finally is contained in the bottle. The shrinkage in bottling is also estimated for

standard cost from past experience and is adjusted periodically as the shrinkage generally fluctuates with the climatic conditions.

The cost for the whiskey per case is calculated from the cost per proof gallon times the number of gallons in the case. On referring to Exhibit VIII it will be noted that such costs are calculated for different sizes and strength from the cost per proof gallon since a proof gallon represents a wine gallon 100 proof.

Monthly Entries

The monthly journal entries recording the cost of whiskey up to the time that it was placed in maturing warehouses have been mentioned in my earlier remarks. The following describes the various transactions and entries from the time the whiskey is removed from the warehouse until bottled and charged to cost of sales.

Domestic Whiskey—Tax Paid at Rectifier

The production department advises the cost department by means of daily reports the whiskey transferred out of the maturing warehouses. The daily reports include thereon the serial number of the barrels, the original gauge proof gallons as stamped on the headings of the barrels, type and age of the whiskey and the regauged gallons at the time the barrels are dumped. The cost of the whiskey removed from the in bond warehouses is recorded on the books by taking the unit cost of the original proof gallons as recorded in the subsidiary record and transferring this cost to "Tax Paid" whiskey. A working sheet is maintained for the tax paid whiskey beginning with the opening inventory by types and ages at the standard cost to which is added the cost of the in bond whiskey transferred to tax paid whiskey. The United States Internal Revenue Tax as paid on the tax gallons dumped is added and in addition the barrel depreciation. The Internal Revenue Tax is charged to the tax paid whiskey account direct from the cash book while the barrel depreciation is recorded by means of a journal entry.

The journal entry recording the barrel depreciation is prepared by taking the original proof gallons tax paid by the standard cost per gallon. The entry in the general ledger debits "Domestic Whiskey Tax Paid" and credits the "Maturing Barrel" account.

The tax paid whiskies transferred to bottling tanks are relieved from the "Domestic Whiskey—Tax Paid" account to "Finished Whiskey" account by costing the tax paid gallons at the standard unit cost for the various ages. Exhibit VIII states the cost for 48—51 months old rye as $9.7637 per tax paid gallon. This unit cost multiplied by the tax paid gallonage of that age and type is debited to "Finished Whiskey" and credited to "Domestic Whiskey—Tax Paid".

The inventory of tax paid whiskies remaining in the rectifier at the end of the month is costed by ages and types at the same standard cost used as when transferred to finished whiskies. The difference between the priced inventory at standard cost and the book inventory after the above entries is adjusted by either debiting or crediting "Inventory Variation Account—Tax Paid Whiskies".

Finished Whiskies—Tax Paid

The production department furnishes the cost department with daily batch reports for each lot of whiskey transferred from tax paid whiskey to

the finished whiskey. The tax paid whiskey is reduced to bottling strength on being pumped into the bottling tanks. As previously mentioned the tax paid whiskey is transferred to finished at standard cost and added to the opening inventory at the beginning of the month. The actual "Rectifying and Maturing Expense" account is cleared out at the end of each month and charged to "Finished Whiskies—Tax Paid" at the actual expenses for the month. The gallonage actually bottled is also priced at the same standard cost as the opening and closing inventory. By referring to Exhibit VIII the unit cost for 48—51 months old rye is priced at $9.9896 per gallon.

The difference between the priced physical inventory at standard cost and the book balance is then adjusted to "Inventory Variation Account—Finished Whiskey". The inventory variation is caused by two differences in the cost. The first factor of variation is the difference betwen the actual rectifying and maturing expense and that provided in the standard cost which on Exhibit VIII is stated at 10c per proof gallon. The second factor of variation is the cost of the actual gallons lost in bottling as compared to the provision in the standard cost which is shown on Exhibit VIII at 1¼%.

The actual gallons bottled as well as the standard cost for the finished whiskey is taken from the "Summary of Cases Put Up".

"Summary of Cases Put Up"

The production department forwards a "Daily Report of Cases Produced" each day to the cost department. The daily reports are summarized at the end of each month and priced at the standard cost by component parts. Exhibit VI shows the component parts for 48—51 months old rye. The total cases of this type and age of whiskey are priced on the summary as follows:

Number of Case	Proof Gallons Included Therein	Cost per Case	Amount
1,000	2,064	$22.35	$22,350.00

Material Cost		Bottling Cost		Bottling Supplies	
Per Case	Amount	Per Case	Amount	Per Case	Amount
$20.62	$20,620.00	$ .35	$350.00	$1.38	$1,380.00

The gallonage as shown on the above summary and the material cost will agree with the gallonage and amount bottled included on the schedule of "Finished Whiskies". The journal entry prepared at the end of the month from the summary would be as follows:

Dr.	Bottled Stock	$22,350.00	
Cr.	Finished Whiskey		$20,620.00
	Bottling Expense		350.00
	Bottling Supplies		1,380.00

Bottling Expense

The actual costs of bottling are charged direct to this account in the general ledger. The bottling expense account in the general ledger is classified for the following sub-classifications:

Direct Payroll
Heat, Light and Power
Maintenance and Repairs Payroll
Maintenance and Repairs Expense
Freight and Cartage
Dies
Designing
Breakage
Miscellaneous Supplies
Miscellaneous Expense

The charges to bottling expense account are made from the payroll distribution, the distribution of the vouchers payable record and from the heat, light and power distribution report. The journal entry recording the cases put up credited the bottling expense account with the number of cases bottled at the standard cost for bottling expense. The difference between the standard cost so credited and the actual bottling expenses during the month is debited or credited at the end of each month to "Inventory Variation Account—Bottling Expense".

Bottling Supplies

Kardex records are kept both in the plant office and in the cost accounting office of all bottling supplies. The plant office records these supplies by quantities only, but the cost department files include quantities, unit price and amount in money value. The invoices for bottling supplies after being entered in the voucher register are forwarded to the clerk in the cost department who keeps the bottling supplies records. The entries are posted in the Kardex cards from the invoices by stock number similar to the numbers as listed on the standard specification sheet Exhibit VII.

The bottling department forwards to the cost department at the end of each month a "Monthly Statement of Bottling Supplies Used and on hand". The statement includes each item in stock, i.e., back label, front label, etc. by stock number. For each item in stock there is listed the opening balance, received, used in production, spoilage, written off to obsolete, and ending balance. The cost department prices the supplies used in production from the unit prices on the Kardex cards using the first in, first out basis. The quantities spoiled are written off and included with the cost of production. Bottling supplies written off as absolete are recorded separately so that the management may be advised of the amount. The inventory on hand at the end of the month as included on the statement received from the bottling department is agreed with the book quantities on the cost department Kardex cards. By this check any differences may be discovered and corrected in the month in which they occur. The bottling department does not take a physical inventory at the end of each month but makes continuous checks throughout the month so that the plant records are adjusted periodically to actual.

The journal entry recording the cases put up credits bottling supplies with the number of cases bottled at the standard cost for bottling supplies. The cost department prices the actual bottling supplies used at actual cost and adjusts the difference each month to "Inventory Variation Account—Bottling Supplies".

The inventory on hand at the end of each month is priced from the

Kardex cards at actual cost and agreed with the Bottling Supplies Account in the general ledger.

Bottled Stock

The journal entry recording the cases put up charged the bottled stock account with the number of cases bottled at the standard cost. The bottled stock account is credited at standard cost and cost of sales is charged from the summary of cases sold and shipped as compiled from invoices. The production department forwards a case goods inventory at the end of each month to the cost department and is priced at standard cost. The priced inventory is then agreed with the balance in the bottled stock account in the general ledger. It is found that the practice of recording the bottled stock account by sub-classifications such as straight whiskies, blended whiskies, gins and cordials makes any discrepancies more readily found as the differences may then be localized.

Inventory Variation Account

From the foregoing it will be noted that the difference between actual costs and standard costs is debited or credited to inventory variation account. At the time of setting up new standard costs the necessary adjustments may be seen from the amount of the inventory variation for the various items of expense or material cost. The adjustments are based on actual experience from the prior period. The inventory variation is kept by each classification so each variation may readily be seen.

Monthly Reports

The purpose of any cost system in addition to recording the various entries on the books should furnish the management with all the cost currently and not several months after the period or month has closed. The above system closes out all operating accounts monthly and it is possible to furnish the management with statements of production, operating costs and yields on the 20th day of the month after the close of the period. The management is then in a position to discuss with the production department items of cost that are in excess of normal and to correct any short-comings before they have extended for any length of time.

Conclusion

The demarks in the above paragraphs have not attempted to explain in detail all the aspects in distillery cost accounting but have merely described the fundamentals of the system. The procedure followed for costing of gins, blended whiskies and cordials while based on the same principles as that used for straight whiskies, differ in the method of treatment.

The system outlined above briefly touched on each element of cost from the raw material through to the charge for the finished product in the cost of sales.

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